

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

VI TECHNOLOGIES, LLC,

Plaintiff,

v.

AEROTECH MAPPING, INC.

Defendant.

CIVIL ACTION NO. 6:21-CV-00297-ADA

**JURY TRIAL DEMANDED**

VI TECHNOLOGIES, LLC,

Plaintiff,

v.

MERRICK & COMPANY,

Defendant.

CIVIL ACTION NO. 6:21-CV-00316-ADA

**JURY TRIAL DEMANDED**

VI TECHNOLOGIES, LLC,

Plaintiff,

v.

WOOLPERT, INC.,

Defendant.

CIVIL ACTION NO. 6:21-CV-00318-ADA

**JURY TRIAL DEMANDED**

**PLAINTIFF VI TECHNOLOGIES, LLC'S  
RESPONSIVE CLAIM CONSTRUCTION BRIEF**

## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
II.	ASSERTED PATENTS.....	2
1.	The '348 Patent .....	2
2.	The '938 Patent .....	5
3.	The '258 Patent .....	6
4.	The '960 Patent .....	6
5.	The '822 Patent .....	7
6.	The '298 Patent .....	7
III.	LEGAL STANDARD.....	7
IV.	CLAIM CONSTRUCTION ARGUMENTS.....	7
1.	“Self-locking [flying] pattern” .....	7
2.	“elevation measurement unit” .....	9
3.	“aperture” .....	12
4.	“imaging sensor” .....	14
5.	“wherein the [first/third] image sensor data bisects the [second/fourth] image sensor data” .....	19
6.	“in communication with” .....	21

## TABLE OF AUTHORITIES

### Cases

<i>3M Innovative Props. Co. v. Tredegar Corp.</i> , 725 F.3d 1315 (Fed. Cir. 2013).....	16
<i>Adams Respiratory Therapeutics, Inc. v. Perrigo Co.</i> , 616 F.3d 1283 (Fed. Cir. 2010).....	16
<i>Apex Inc. v. Raritan Computer, Inc.</i> , 325 F.3d 1364 (Fed. Cir. 2003).....	10
<i>Clear Imaging Research LLC v. Samsung Elecs. Co.</i> , No. 2:19-cv-00326-JRG, 2000 U.S. Dist. LEXIS 202507 (E.D.Tex Oct. 30, 2020).....	11
<i>Collins v. Nissan N. Am., Inc.</i> , No. 2:11-CV-428-JRG, 2013 U.S. Dist. LEXIS 15749 (E.D. Tex. Feb. 5, 2013).....	13
<i>Cordis Corp. v. Boston Sci. Corp.</i> , 561 F.3d 1319 (Fed. Cir. 2009).....	16
<i>Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.</i> , No. 2:14-cv-0911-JRG-RSP, 2015 U.S. Dist. LEXIS 151310 (E.D. Tex. Nov. 7, 2015) .....	16
<i>Embrex, Inc. v. Serv. Eng'g Corp.</i> , 216 F.3d 1343 (Fed. Cir. 2000).....	14
<i>Epistar Corp. v. ITC</i> , 566 F.3d 1321 (May 22, 2009).....	21
<i>Fractus, S.A. v. TCLl Corp.</i> , No. 2:20-CV-00097-JRG, 2021 U.S. Dist. LEXIS 131561 (E.D. Tex. July 14, 2021) .....	20
<i>Gesture Tech. Partners, LLC v. Huawei Device Co.</i> , No. 2:21-CV-40-JRG, 2021 U.S. Dist. LEXIS 195721 (E.D. Tex. Oct. 12, 2021) .....	10
<i>Huawei Techs. Co. v. T-Mobile US, Inc.</i> , No. 2:16-CV-00056-JRG-RSP, 2017 U.S. Dist. LEXIS 79836 (E.D. Tex. May 24, 2017) .....	11
<i>MBO Labs. Inc. v. Becton, Dickinson &amp; Co.</i> , 474 F.3d 1323 (Fed. Cir. 2007).....	20
<i>Media Rights Techs., Inc. v. Capital One Fin. Corp.</i> , 800 F.3d 1366 (Fed. Cir. 2015).....	10

<i>Nautilus Group, Inc. v. Icon Health and Fitness, Inc.</i> , 82 Fed. Appx. 691 (Fed. Cir. 2003) .....	13
<i>Nautilus, Inc. v. Biosig Instruments</i> , 572 U.S. 898 (2014) .....	7, 9
<i>O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.</i> , 521 F.3d 1351 (April 2, 2008).....	21
<i>Oatey Co. v. IPS Corp.</i> , 514 F.3d 1271 (Fed. Cir. 2008).....	16
<i>Phillips v. AWH Corporation</i> , 415 F.3d 1303 (Fed. Cir. 2005).....	20
<i>Samsung Elecs. Am., Inc. v. Prisia Eng’g Corp.</i> , 948 F.3d 1342 (Fed. Cir. 2020).....	10
<i>Sonix Tech. Co. v. Publ’ns Int’l, Ltd.</i> , 844 F.3d 1370 (Fed. Cir. 2017).....	8
<i>Summit 6, LLC v. Samsung Elecs. Co.</i> , 802 F.3d 1283 (Fed. Cir. 2015).....	22
<i>Tech Pharmacy Servs., LLC v. Alixa Rx LLC</i> , C.A. No. 4:15-CV-766, 2016 U.S. Dist. LEXIS 149556 (E.D. Tex. Oct. 28, 2016).....	22
<i>Thorner v. Sony Comput. Entm’t Am. LLC</i> , 669 F.3d 1362 (Fed. Cir. 2012).....	14, 16, 19
<i>U.S. Surgical Corp. v. Ethicon, Inc.</i> , 103 F.3d 1554 (Fed. Cir. 1997).....	12, 21
<i>Visual Intelligence LP v. Optech, Inc.</i> , No. H-13-2612, 2015 U.S. Dist. LEXIS 23160 (S.D. Tex. Feb. 26, 2015) .....	18
<i>Williamson v. Citrix Online, LLC</i> , 792 F.3d 1339 (Fed. Cir. 2015).....	10

## Statutes

35 U.S.C. § 112.....	9, 10
----------------------	-------

## I. INTRODUCTION

Plaintiff VI Technologies, LLC (“VI”) files this responsive claim construction brief to Defendants AeroTech Mapping, Inc.,<sup>1</sup> Merrick & Company,<sup>2</sup> and Woolpert, Inc.’s<sup>3</sup> (collectively, “Defendants”) joint opening claim construction brief.

For over 17 years, Texas-based VI has been an innovator and industry thought-leader in mapping software and sensor technologies. VI manufactures and sells digital metric geospatial technology, including, but not limited to, systems for aerial surveying. VI provides a platform for developing world-class metric 3D sensor solutions and information delivery workflows for large airborne systems, drones, and mobile applications. VI has been awarded 14 United States patents in the fields of aerial surveying, survey data processing and data management, and mapping systems, and numerous international patents on its ground-breaking technologies. Using the principles of computer vision and photogrammetry, VI’s patented technology transforms an array of cameras into a wide-field image with accurate 3D measurement systems and brings ultra-high definition capabilities to numerous industries.

Defendants contend that one term is indefinite and depart from the plain and ordinary meaning of the five remaining terms by importing unrecited—and in many cases undisclosed—limitations into the claims. But Defendants fail to identify any instance in which VI expressly relinquished claim scope to necessitate any departure from the plain and ordinary meaning. Accordingly, VI respectfully submits that the Court should reject Defendants’ proposed constructions and construe these terms according to their plain and ordinary meaning.

---

<sup>1</sup> *VI Technologies, LLC v. AeroTech Mapping, Inc.*, C.A. No. 6:21-cv-00297-ADA, Dkt. No. 21.

<sup>2</sup> *VI Technologies, LLC v. Merrick & Company*, C.A. No. 6:21-cv-00316-ADA, Dkt. 30.

<sup>3</sup> *VI Technologies, LLC v. Woolpert, Inc.*, C.A. No. 6:21-cv-00318-ADA, Dkt. No. 30.

## II. ASSERTED PATENTS

The patents-in-suit, U.S. Patent Nos. 7,127,348<sup>4</sup> (the “’348 Patent”), 7,212,938<sup>5</sup> (the “’938 Patent”), 7,725,258<sup>6</sup> (the “’258 Patent”), 8,483,960<sup>7</sup> (the “’960 Patent”), 8,994,822<sup>8</sup> (the “’822 Patent”), and 9,389,298<sup>9</sup> (the “’298 Patent”) (collectively, the “Asserted Patents”), are generally directed to systems and methods for collection of data relating to a target area to be mapped and for processing the collected data to provide advanced mapping of the target area. The ’258 Patent, ’960 Patent, ’822 Patent, and ’298 Patent are all part of the same patent family that claim priority to the ’348 Patent.

### 1. The ’348 Patent

The ’348 Patent is entitled “Vehicle based data collection and processing system” and was filed on September 18, 2003. *See* Ex. A. The ’348 Patent claims priority to U.S. Provisional Application No. 60/412,504, filed on September 20, 2002. *Id.*

The ’348 Patent is generally directed to remote sensing and imaging, and more particularly to systems and methods for “rendering high-resolution, high accuracy, low distortion digital images over very large fields of view.” *Id.* at 1:16-17. The field of remote sensing relates to the observation and measurement of objects on the Earth’s surface from a distance, and it includes both aerial photography and remote imaging. Remote sensing and imaging technologies are used for many purposes, such as geological mapping, military surveillance, archeological research, and urban planning. Many applications of the technology require very high image resolution—often

---

<sup>4</sup> Attached hereto as Exhibit A.

<sup>5</sup> Attached hereto as Exhibit B.

<sup>6</sup> Attached hereto as Exhibit C.

<sup>7</sup> Attached hereto as Exhibit D.

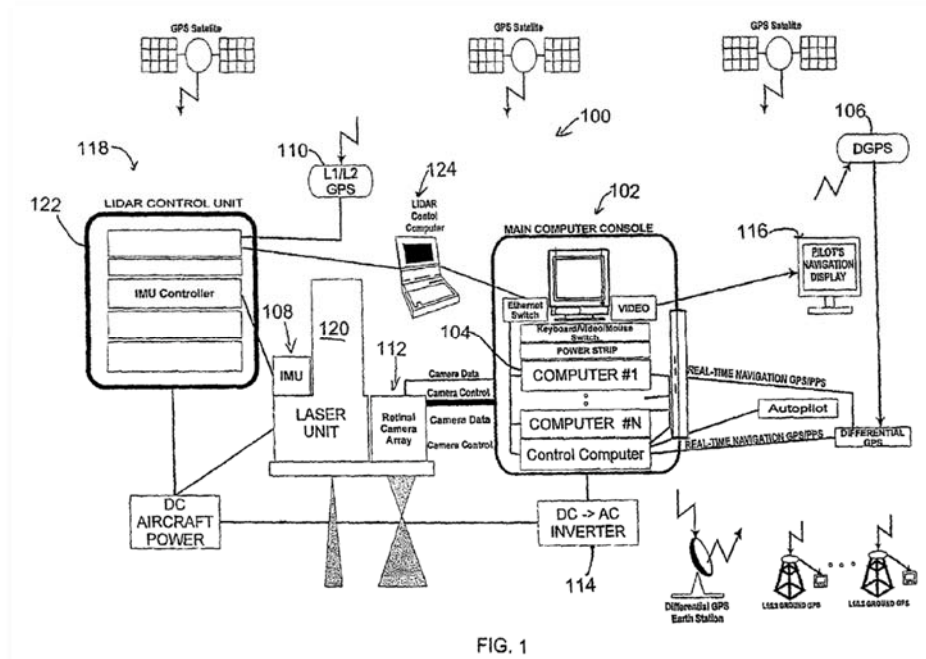
<sup>8</sup> Attached hereto as Exhibit E.

<sup>9</sup> Attached hereto as Exhibit F.

within a tolerance of inches. Because they are often deployed on aircraft, satellites, and other space vehicles, remote sensing systems can be located many miles from the target area of interest.

Obtaining high-resolution images from great distances presents technical challenges. High-resolution images could generally be obtained only when the field of view of the imaging device was comparatively small. On the other hand, when a larger field of view was desired, then image resolution was reduced. *Id.* at 1:50-67. Ortho-imaging is a technique that was developed to address this problem. It involves the creation of high-resolution images of large surfaces areas by obtaining numerous high-resolution images of smaller portions of the areas and assembling them into large, high-resolution composite images of the overall areas of interest. But this process was very time-consuming, labor-intensive, and expensive. Furthermore, the remote sensing and imaging field began to transition from film/analog systems to digital systems in the 1990s. The field thus became heavily reliant upon the collection and processing of large amounts of digital data, including image data, spatial data, terrain elevation data, and observation vehicle position data.

The '348 Patent addresses these issues, among others, by providing technology for efficiently obtaining high-resolution sensing and imaging data over very large fields of view. The detailed description in the patents describes illustrative embodiments of the inventions, but it is not intended to limit the scope of the claimed inventions. *Id.* at 4:45-52. Figure 1 shows one such illustrative embodiment:

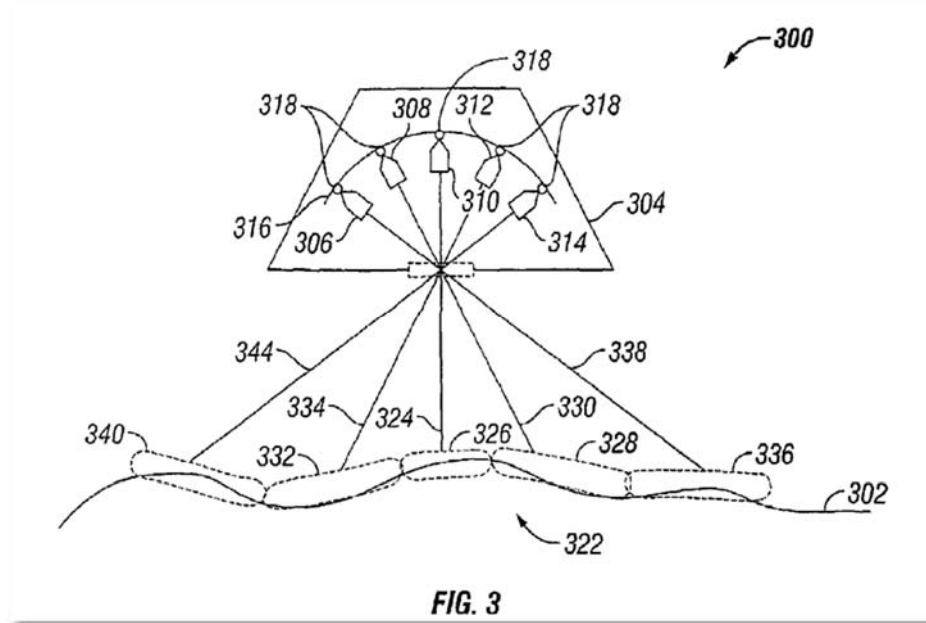


The system described includes one or more computer consoles 102 containing one or more computers 104. *Id.* at 4:54-60. The computers may function to control and adjust sensors, store and process data, and provide display data to a pilot, among many other things.

One or more attitude measurement units (“AMU”) 108 provide real-time yaw, pitch and roll information and is communicatively linked to computer console 102. *Id.* at 5:33-36. Global positioning receivers generate position data that is communicated for integration with yaw, pitch and roll data from the AMU to more accurately determine the location of the remote sensor platform in three-dimensional space. *Id.* at 5:47-50. One or more camera array assemblies 112 are communicatively connected to the computer consoles 102. *Id.* at 5:56-60.

Figure 3, reproduced below, schematically shows camera array assembly 300 airborne over a target area 302. *Id.* at 6:52-55.





The array includes imaging sensors 306, 308, 310, 312, and 314 that are positioned along a curvilinear axis 316. Each imaging sensor has a focal axis. For example, imaging sensor 310 has focal axis 324, imaging sensor 306 has focal axis 338, and imaging sensor 314 has focal axis 344. *Id.* at 8:35-67. The imaging sensors may comprise a variety of digital imaging devices such as cameras or infrared sensors. *Id.* at 9:1-11.

## 2. The '938 Patent

The '938 Patent is entitled "Method of using a self-locking travel pattern to achieve calibration of remote sensors using conventionally collected data" and claims priority to U.S. Application No. 10/244,980 filed on September 17, 2002. *See* Ex. B. The '938 Patent is directed to a "method to calibrate an on-board remote sensing system using a self-locking travel pattern and target remote sensing data." *Id.* at Abstract.

The '938 Patent generally describes "calibrating a vehicle-mounted remote sensor device using remote sensing data collected during conventional operation of the vehicle." *Id.* at 1:11-13. For example, Figure 1 depicts an "aircraft on-board remote sensing system" that has "at least one

remote sensor device designed to obtain data of a site flown over by an aircraft.” *Id.* at 3:57-62. The remote sensor is associated with a computer that is connected to a positioning device to allow for “continuous association of geographical data with images acquired” and is mounted to a vehicle. *Id.* at 3:62-66; 4:12-14. The vehicle is then moved in a “self-locking pattern” over a target-area, such that the pattern “produces at least three substantially parallel travel lines out of a group of three or more lines” with at least one line in an opposing direction. *Id.* at 6:21-31. Remote sensing data is collected from the target area during vehicle movement and is inputted into the computer system to calculate calibration data. *Id.* at 6:38-42. “The calibration data is applied to the remote sensing data to remove bias in image output.” *Id.* at 6:42-44.

### **3. The '258 Patent**

The '258 Patent is entitled “Vehicle based data collection and processing system and imaging sensor system and methods thereof” and was filed on October 11, 2006. *See* Ex. C. The '258 Patent is a continuation-in-part of the '348 Patent. *See id.* The '258 Patent shares substantially the same specification as the '348 Patent.

### **4. The '960 Patent**

The '960 Patent is entitled “Self-calibrated, remote imaging and data processing system” and was filed on April 13, 2010. *See* Ex. D. The '960 Patent is a continuation-in-part of the '258 Patent. *See id.* The '960 Patent shares substantially the same specification as the '258 Patent. The '960 Patent discloses that “the camera sensor grid bisects each pixel in the overlap areas” and “effectively quadruples the image resolution in these areas[.]” *Id.* at 21:43-47. This doubles the resolution of the sensor/image in each dimension, and also “quadruples the alignment precision between adjacent cameras.” *Id.* at 21:47-51.

### 5. The '822 Patent

The '822 Patent is entitled “Infrastructure mapping system and method” and was filed on August 21, 2012. *See* Ex. E. The '822 Patent issued from a series of patents that claim priority to the '960 Patent. *See id.* The '822 Patent’s specification is substantially similar to the specification of the '960 Patent. The '822 Patent discloses a “camera array assembly” that includes “imaging sensors arranged in along track, cross-eyed fashion.” *Id.* at 36:46-51.

### 6. The '298 Patent

The '298 Patent is entitled “Self-calibrated, remote imaging and data processing system” and was filed on February 21, 2013. *See* Ex. F. The '298 Patent is a continuation of the '960 Patent and shares the same specification. *See id.*

## III. LEGAL STANDARD

VI understands that the Court is well-aware of the legal standards for claim construction as established by *Markman*, *Phillips*, and their progeny. To the extent specific legal authority is required to support VI’s positions, it is provided in the appropriate section below.

## IV. CLAIM CONSTRUCTION ARGUMENTS

### 1. “Self-locking [flying] pattern”

Asserted Claims	Plaintiff’s Proposal	Defendants’ Proposal
'938 Patent - Claims 1, 11, 19, 24	No construction necessary.	Indefinite

The term “self-locking [flying] pattern” is clear. For the claim to be indefinite, Defendants must prove by clear and convincing evidence that the claim term “when read in light of the specification delineating the patent, and the prosecution history, fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments*, 572 U.S. 898, 901 (2014). “Indefiniteness must be proven by clear and convincing

evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). Defendants cannot meet this high burden because they have no evidence that the intrinsic record fails to inform a skilled artisan of the scope of the invention with reasonable certainty. Defendants’ unsupported attorney argument does not suffice.

Defendants argue that the term “self-locking pattern” as used in claim 1 is allegedly inconsistent with its use in other claims. Opening Br. at 9-11. But the claims themselves explain what comprises the self-locking flying pattern for each claim. In each instance, the claim language itself provides a description of “self-locking flying pattern.”

The claim language in pertinent part is shown below:

1. A method of calibrating a remote sensor system comprising the steps of:

...

(b) moving the vehicle in a ***self-locking pattern*** over a target area to calibrate the remote sensor, the movement comprising ***any pattern that produces at least three substantially parallel travel lines out of a group of three or more lines, at least one of which travel lines is in an opposing direction to the other substantially parallel travel lines;***

11. A method of calibrating a remote sensor system for use in airborne imaging comprising the steps of:

...

(b) flying the aircraft in a ***self-locking flying pattern*** over a target area to calibrate the remote sensor, the self-locking flying pattern comprising ***any pattern that produces at least three substantially parallel flight lines out of a group of three or more lines, at least one of which flight lines is in an opposing direction to the other substantially parallel flight lines;***

19. A method of calibrating a remote sensor system for use in airborne imaging comprising the steps of:

...

(b) flying the aircraft in a ***self-locking flying pattern*** over a target area to calibrate the remote sensor, the ***self-locking flying pattern comprising adjacent substantially parallel flight lines having a right outermost flight line, a left outermost flight line and at least one inner flight line, the adjacent substantially parallel flights lines arranged so that the self-locking flying pattern has at least one pair of adjacent substantially parallel flight lines in a matching direction and at least one pair of adjacent substantially parallel flight lines in a opposing direction;***

24. A method of determining error in a remote sensing system for airborne imaging comprising the steps of:

...

(b) flying the aircraft in a *self-locking flying pattern* over a target area to calibrate the remote sensor, the *self-locking flying pattern comprising adjacent substantially parallel flight lines arranged so that the self-locking flying pattern includes at least one pair of flight lines in a matching direction and at least one pair of flight lines in an opposing direction*;

Ex. B. at 11:18-27 (emphasis added), 11:61-12:4 (emphasis added), 12:39-53 (emphasis added), 13:13-14:4 (emphasis added). As can be seen, each of the claims recite “self-locking flying pattern” and recite what the self-locking flying pattern comprises.

Therefore, one skilled in the art would understand the scope of the term “self-locking [flying] pattern,” and Defendants have not shown this term to be indefinite. *See Nautilus, Inc.*, 572 U.S. 898, 901 (2014).

## 2. “elevation measurement unit”

Asserted Claims	Plaintiff's Proposal	Defendants' Proposal
'348 Patent - Claims 1, 9, 16	No construction necessary.	These terms should be construed in accordance with pre-AIA U.S.C. 112, ¶6 to mean:  Function: measuring surface elevations.  Disclosed Structure: EMU module 118
'258 Patent - Claim 1		
'960 Patent - Claim 1		
'822 Patent - Claims 1, 22, 24, 29		
'298 Patent - Claims 1, 36, 40, 41		

The parties dispute whether this term should be construed as a means-plus-function limitation under 35 U.S.C. § 112, ¶ 6. The claim term does not use the term “means.” There is a rebuttable presumption that § 112, ¶ 6 does not apply in the absence of the terms “means” or “step

for” in the claim language. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc in relevant portion). And it is Defendants’ burden to show that the presumption does not apply. *Id.*; *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1375 (Fed. Cir. 2003). To overcome the presumption, Defendants must show that a person of ordinary skill in the art would not understand the claim term, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function. *Id.*; *see Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1372 (Fed. Cir. 2015) (holding that § 112, ¶ 6 does not apply when “the claim language, read in light of the specification, recites sufficiently definite structure”) (quotation marks omitted) (citing *Williamson*, 792 F.3d at 1349).

Here, Defendants ask the Court to construe this term under § 112, ¶ 6 because the word “unit” is supposedly a nonce word that does not denote structure to a person of ordinary skill in the art any more than the word “means” does. Opening Br. at 17. But the word “unit” is not dispositive of the issue. The Federal Circuit, and other courts, have found claim terms with the word “unit” did not invoke means plus function claiming. *See, e.g., Samsung Elecs. Am., Inc. v. Prisia Eng’g Corp.*, 948 F.3d 1342, 1354 (Fed. Cir. 2020) (holding that the term “digital processing unit” did not invoke means means-plus-function claiming.); *Apex Inc.*, 325 F.3d at 1373–75, (finding that district court erred in treating claim limitations as means-plus-function limitations where limitations at issue, including “first signal conditioning unit” and “second signal conditioning unit,” did not use the term “means.”); *Gesture Tech. Partners, LLC v. Huawei Device Co.*, No. 2:21-CV-40-JRG, 2021 U.S. Dist. LEXIS 195721, at \*114 (E.D. Tex. Oct. 12, 2021) (Gilstrap, J.) (holding that the term “processing unit” did not invoke 35 U.S.C. § 112, ¶ 6); *Huawei Techs. Co. v. T-Mobile US, Inc.*, No. 2:16-CV-00056-JRG-RSP, 2017 U.S. Dist. LEXIS 79836, at

\*71 (E.D. Tex. May 24, 2017) (Payne, J.) (finding that term “processing unit” is not subject to 112, ¶ 6.).

This is because the presumption for or against the application of 35 U.S.C. 112, ¶ 6 “stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function.” *Clear Imaging Research LLC v. Samsung Elecs. Co.*, No. 2:19-cv-00326-JRG, 2000 U.S. Dist. LEXIS 202507, at \*15 (E.D.Tex Oct. 30, 2020). Defendants have not pointed to any evidence that a person skilled in the art would regard the term “elevation measurement unit” as purely functional. *Id.* Defendants’ conclusory expert declaration, which cites no facts in support, does not show by clear and convincing evidence that “elevation measurement unit” fails to denote sufficient structure. *See* Opening Br., Ex. A, ¶¶ 8-9. Defendants cite no facts to support their argument because they cannot. “Elevation measurement” provides specific structure. It informs one of skill in the art that the claim term is claiming a device for determining elevation measurements. There is nothing unclear about this language. And when read in light of the specification, the term denotes sufficient structure. Defendants have not presented clear and convincing evidence to the contrary. Therefore, Defendants’ proposal should be rejected.

### 3. “aperture”

Asserted Claims	Plaintiff’s Proposal	Defendants’ Proposal
’348 Patent - Claims 1, 16	No construction necessary.	“an opening formed in the surface of a housing through which light reaches the imaging sensors”
’258 Patent - Claims 1, 12, 16		
’960 Patent - Claims 1, 16		
’822 Patent - Claims 1, 21, 22, 24		
’298 Patent - Claims 1, 16, 36, 41		

VI submits that the Court should decline to construe this term because the meaning of “aperture” is clear and unambiguous. As Defendants concede, the term “aperture” is well-known and should be given its ordinary meaning. But Defendants then argue that construction is necessary because VI’s infringement contentions could supposedly cause confusion as to the meaning of “aperture,” and that the jury should not be left to hear from competing experts. Opening Br. at 20-21. Infringement is not considered when construing claim terms. The term “aperture” is clear on its face and requires no further construction. When a claim term or phrase is readily comprehensible to the finder of fact, the term or phrase requires no construction. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“The purpose of claim construction is “to clarify and when necessary to explain what the patentee covered by the claims.”).

Furthermore, Defendants’ proposed construction for “aperture” is inconsistent with the language of the claims. For example, claims 1 and 16 of the ’348 Patent recite “a housing” and “an aperture disposed in the housing.” Ex. A at 22:11-12 and 22:47-48. If the meaning of



“aperture” inherently requires it to be disposed in the housing, as Defendants propose, then claims 1 and 16 of the ’348 Patent would not need to state that the aperture is “disposed in the housing,” and this limitation of the claims would not be necessary. *Collins v. Nissan N. Am., Inc.*, No. 2:11-CV-428-JRG, 2013 U.S. Dist. LEXIS 15749, at \*21 (E.D. Tex. Feb. 5, 2013) (“[T]he law disfavors a claim construction that renders other claim language superfluous[.]”); *Nautilus Group, Inc. v. Icon Health and Fitness, Inc.*, 82 Fed. Appx. 691, 694 (Fed. Cir. 2003) (unpublished) (finding the district court’s claim construction erroneous because it rendered claim terms superfluous). Additionally, none of the asserted claims in the ’258, ’960, ’822, or ’298 Patents recite a housing and therefore do not require the aperture to be “formed in the surface of the housing.” Ex. C at Cl. 1, 12, and 16; Ex. D at Cl. 1 and 16; Ex. E at Cl. 1, 21, 22, and 24; and Ex. F at Cl. 1, 16, 36, and 41. For example, claim 12 of the ’258 Patent recites:

12. An imaging sensor system comprising:  
     a rigid mount plate affixed to a vehicle;  
     a first rigid mount unit affixed to the mount plate and having a first and second imaging sensor disposed within the first mount unit, wherein the first imaging and second imaging sensors each have a focal axis passing through an aperture in the first mount unit and the mount plate, wherein the first and second imaging sensors each generate a first array of pixels, wherein each array of pixels is at least two dimensional;  
     a second rigid mount unit affixed to the mount plate and having a third imaging sensor disposed within the second mount unit.

Ex. C at Cl. at 12. Claim 12 of the ’258 Patent does not recite a “housing” or a “surface.” *Id.* Defendants’ proposed construction would therefore improperly read the limitations “housing” and “surface” into claims 1, 12, and 16 of the ’258 Patent, claims 1 and 16 of the ’960 Patent, claims 1 and 21 of the ’822 Patent, and claims 1, 16, 36, and 41 ’298 Patent and “housing” into claims 22, and 24 of the ’822 Patent and claim 36 of ’298 Patent.

Defendants’ proposed construction does not provide clarity to the term “aperture,” but rather impermissibly seeks to add limitations to the claims. *Thorner v. Sony Comput. Entm ’t Am.*

*LLC*, 669 F.3d 1362, 1366-67 (Fed. Cir. 2012) (“we do not redefine words”); *see also Embrex, Inc. v. Serv. Eng’g Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000) (“Claim construction is simply a way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims.”). Therefore, VI respectfully requests that the Court reject Defendants’ construction.

#### 4. “imaging sensor”

Asserted Claims	Plaintiff’s Proposal	Defendants’ Proposal
’348 Patent - Claims 1, 9, 16	No construction necessary.	“device capable of receiving and processing passive radiometric energy from a target area”
’258 Patent - Claims 1, 12, 22		
’960 Patent - Claims 1, 16, 31		
’822 Patent - Claims 1, 21, 22, 24, 29		
’298 Patent - Claims 1, 16, 31, 36, 40, 41, 43		

VI submits that the Court should decline to construe this term because the meaning of “imaging sensor” is a well-known concept in the field of the invention and requires no further construction. Defendants’ proposed construction relies on disclaimer without the appropriate showing for disclaimer.

Defendants’ proposed construction is also contrary with the specifications of the ’258, ’960, ’822, and ’298 Patents, which state that imaging sensors may be capable of detecting active radiometric energy.

For purposes of this disclosure, an imaging sensor means any device capable of receiving and processing active or passive radiometric energy, i.e., light, sound, heat, gravity, and the like, from a target area.

Ex. C at 8:58-62; Ex. D at 9:16-20; Ex. E at 16:8-11; Ex. F at 9:16-20.

The specification of the '348 Patent describes imaging sensors in a similar manner:

The imaging sensors 306 through 314 may comprise a number of digital imaging devices including, for example, individual area scan cameras, line scan cameras, infrared sensors, hyperspectral and/or seismic sensors. Each sensor may comprise an individual imaging device, or may itself comprise an imaging array. The imaging sensors 306 through 314 may all be of a homogenous nature, or may comprise a combination of varied imaging devices. For ease of reference, the imaging sensors 306 through 314 are hereafter referred to as cameras 306 through 314, respectively.

Ex. A at 9:1-12. Nothing in the specifications limits an imaging sensor to a device that only detects passive energy. In fact, the '348 Patent extensively describes using Light Detection and Ranging ("LIDAR") devices—which a person of ordinary skill in the art would understand are active—as imaging sensors. *Id.* at 10:63-11:44. LIDAR may be used to create a Digital Terrain Model (DTM) or Digital Surface Model (DSM), both of which may be displayed as images, and the '348 Patent explains that "DTM and DSM data sets can also be captured from the camera array assembly." *Id.* at 10:54-66, 11:15-18. To the extent there remains any doubt, the specification and claims of the '258, '960, '822, and '298 Patents confirm that an imaging sensor may be an active energy device, such as LIDAR. Ex. C at 8:63-65; Ex. D at 9:20-23; Ex. E at 16:11-14; Ex. F at 9:20-23 ("In particular, imaging sensors may include . . . LIDAR sensors. . ."); *see also* Ex. A at Cl. 6, 9, 17 and 20.

The specifications are consistent with the ordinary meaning of the term, which does not exclude processing active energy. Defendants' proposed construction would limit this term to a device capable of receiving and processing only passive radiometric energy, excluding active energy. That construction is improper because it would exclude embodiments disclosed in the

specification. *See Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1276 (Fed. Cir. 2008) (“We normally do not interpret claim terms in a way that excludes embodiments disclosed in the specification.”); *see also Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) (“[a] claim construction that excludes the preferred embodiment is rarely, if ever, correct.”).

Defendants attempt to justify their departure from that plain and ordinary meaning by arguing prosecution history disclaimer. Opening Br. at 23. “To disavow or disclaim the full scope of a claim term, the patentee's statements in the specification or prosecution history must amount to a ‘clear and unmistakable’ surrender.” *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, No. 2:14-cv-0911-JRG-RSP, 2015 U.S. Dist. LEXIS 151310, at \*10 (E.D. Tex. Nov. 7, 2015) (Payne, J.) (citing *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009)); *see also Thorner*, 669 F.3d at 1366 (“The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”). “Where an applicant's statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013). Defendants cannot meet this burden.

Defendants’ sole basis for its construction is “Applicant took the position that the LIDAR system of Pack was not an ‘imaging sensor’ since it did not collect *passive spectral radiation*, and Applicant took that position to overcome a rejection, thereby disclaiming broader claim scope.” Opening Br. at 23 (emphasis in original). It is worth noting that Defendants’ brief does not provide the complete statement from the prosecution history, ostensibly because it does not support their position. The first relevant portion of the prosecution history is reproduced below in its entirety.

Pack discloses a system for generating georectified three dimensional images and topography. (Pack, Abs.) In this manner, Pack discloses the use of a LIDAR system to collect elevation data of a surface. (Pack, paragraph 0058) Pack also discloses the use of a digital camera to collect “passive spectral radiation”. (Pack, paragraph 0057) Applicant respectfully asserts that Pack is using a digital camera to generate a visual reference, which is used to better orient the elevation surface data. In contrast, Applicant uses a digital camera as an integral part of a complex system directed toward mapping digital images. Nothing in Pack fairly suggests using a digital camera in a complex system to map digital images. In fact, Pack teaches away from using a digital camera in a complex system.

Opening Br., Ex. F, 3/2/05 Amendment and Response at 21 (emphasis added).

Two things are apparent from Applicants’ statement. First, to the extent the Applicants differentiated the LIDAR system in the prior art from the “imaging sensor” in the claims, they did so because the prior art LIDAR system was used “to collect elevation data of a surface,” not for imaging. Second, the Applicants did not make any statements regarding whether the LIDAR system in the prior art was passive or active, let alone rely on such a distinction to overcome prior art.

The second relevant portion of the prosecution history is reproduced below in its entirety.

Alternatively, assuming—*arguendo*—one of ordinary did combine Pack and Garrot they would not arrive at Applicant’s claimed invention as described in Claims 1-7 and 13-20. Specifically, Pack fails to fairly teach or suggest the presence of a second imaging sensor.

*Id.* at 22 (emphasis added).

This statement merely states again that the prior art does not disclose a “second imaging sensor,” without any reference to passive or active sensors. Nothing in the prosecution rises to the level of a clear and unmistakable disclaimer.

In *Visual Intelligence LP v. Optech, Inc.*, the court considered and rejected the same alleged disclaimer argument that Defendants make here:

Optech argues that VI’s statement that the LIDAR in Pack was not “a second imaging sensor[]” disavowed not only LIDAR, but all active sensors, and that the court should therefore construe “imaging sensor” to mean a device capable of receiving and processing only passive radiometric energy. The court is not persuaded that VI’s disavowal was so sweeping. VI’s statement to the patent examiner only confirmed what was clear from the specification itself: The term “imaging sensor” in the claims of the ’348 patent does not refer to a LIDAR module in the EMU. The court finds no other limitation of the term “imaging sensor” in the ’348 patent or prosecution history. The court therefore adopts the same construction for “imaging sensor” for both the ’258 patent and the ’348 patent: “a device capable of receiving and processing active or passive radiometric energy from a target area.”

*Visual Intelligence LP v. Optech, Inc.*, No. H-13-2612, 2015 U.S. Dist. LEXIS 23160, at \*18 (S.D. Tex. Feb. 26, 2015) (Lake, J.).

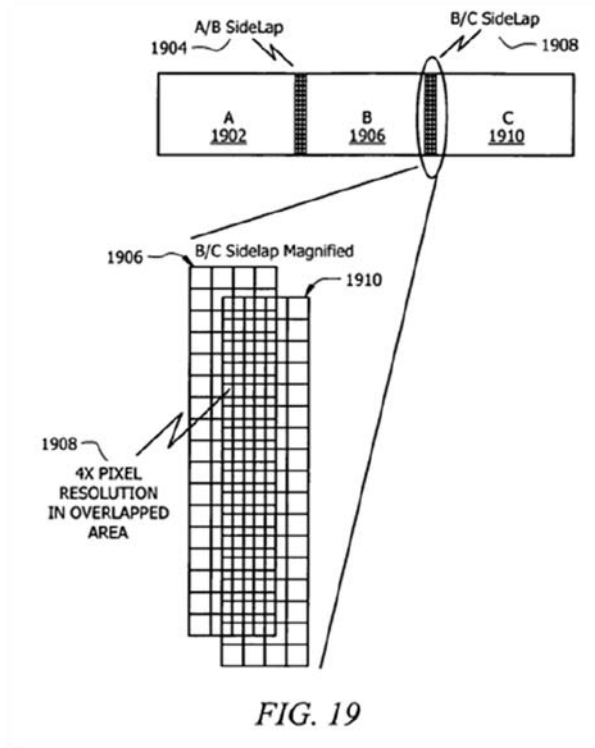
Defendants seek to narrow the scope of this term to the exclusion of embodiments in the specification. VI did not disclaim the scope of the term “imaging sensor” through disclaimer or lexicography. Accordingly, Defendants’ construction should be rejected, and this term should be afforded its plain and ordinary meaning.

5. “wherein the [first/third] image sensor data bisects the [second/fourth] image sensor data”

Asserted Claims	Plaintiff’s Proposal	Defendants’ Proposal
’960 Patent - Claims 1, 3, 16, 18  ’822 Patent - Claims 13, 21  ’298 Patent - Claims 1, 3, 16, 18	No construction necessary.	“wherein one corner of each pixel in the second image data set aligns with the center of each respective pixel in the first image data set”

Here again, Defendants seek construction when no construction is necessary. Defendants’ proposal rewrites unambiguous claim language to add new limitations to the claim that do not exist. The term “wherein the [first/third] image sensor data bisects the [second/fourth] image sensor data” (i.e., the “Bisects Clause”) does not require construction because it is readily understood by one skilled in the art when read “in the context of the specification and prosecution history.” *Thorner*, 669 F.3d at 1365. Defendants concede that the Bisects Clause is comprised of terms that a jury would not find confusing. Opening Br. at 25 (“For example, a particular juror may be familiar with terms such as ‘image,’ ‘sensor,’ ‘data,’ and even ‘bisects.’”). Defendants, however, still propose a construction for the Bisects Clause in what appears to be an improper attempt to narrow the scope of the term.

Defendants’ construction requires that the corner of one pixel aligns with the center of another pixel. There is no such requirement in the claim themselves. Nor is there any support in the specifications for such a construction. In discussing Figure 19, the ’960 Patent discloses that the “sidelap areas 1904 and 1908, the camera sensor grid *bisects* each pixel in the overlap areas 1904 and 1908, which effectively quadruples the image resolution in these areas 1904 and 1908 via the mechanism of co-mounted, co-registered oversampling.” Ex. D at 21:43-47.



Ex. D at Fig. 19.

The disclosure discussing Figures 20 and 21 contains similar language. *Id.* at 22:43-48, 24:37-42. There is no requirement that the bisecting must occur at the center of the pixels. Defendants’ argument rests on the illustration of Figures 19-21. But “patent coverage is not necessarily limited to inventions that look like the ones in the figures. To hold otherwise would be to import limitations [i]nto the claim[s] from the specification, which is fraught with danger.” *MBO Labs. Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007); *see also Fractus, S.A. v. TCLL Corp.*, No. 2:20-CV-00097-JRG, 2021 U.S. Dist. LEXIS 131561, at \*72 (E.D. Tex. July 14, 2021) (Gilstrap, C.J.) (citing *Phillips v. AWH Corporation*, 415 F.3d 1303 at 1323 (Fed. Cir. 2005)) (“[The] [s]pecific feature of particular disclosed embodiments [] should not be imported into the claim construction.”)

As with most of their constructions, this proposal by Defendants departs from the plain and ordinary meaning of the claim language. But the Defendants cannot show that either of the two



permissible bases for doing so exists: (1) no lexicography; and (2) no clear and unmistakable disclaimer. Accordingly, VI requests that the Court reject Defendants’ construction.

**6. “in communication with”**

<b>Asserted Claims</b>	<b>Plaintiff’s Proposal</b>	<b>Defendants’ Proposal</b>
’258 Patent - Claim 1	No construction necessary.	“connected for the transfer of information”
’960 Patent - Claim 1		
’822 Patent - Claims 1, 29		
’298 Patent - Claims 1, 41		

VI submits that the Court should decline to construe this term because the meaning of “in communication with” is clear and unambiguous. Defendants’ construction adds limitations to the claims. In essence, Defendants’ construction limits “communication” to the “transfer of information” and requires an actual connection. Nothing in the plain claim language requires these limitations be read into the claims. There is simply no basis to overcome the “heavy presumption” that this term should be given its plain and ordinary meaning. *See Epistar Corp. v. ITC*, 566 F.3d 1321 at 1334 (May 22, 2009). Defendants’ construction should also be rejected because it impermissibly adds limitations that could confuse the jury.

The term “in communication with” is a simple term that a lay juror would understand and be able to apply in determining infringement. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351 at 1360 (April 2, 2008). “Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.” *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d at 1362 (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent's asserted

claims.”); *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015) (determining “the district court did not err by declining to construe” a claim term”). Court have previously found the term “in communication with” has its plain and ordinary meaning. *See Tech Pharmacy Servs., LLC v. Alixa Rx LLC*, C.A. No. 4:15-CV-766, 2016 U.S. Dist. LEXIS 149556, at \*18 (E.D. Tex. Oct. 28, 2016) (Mazzant, J.) (finding that “in communication with” had its plain meaning.).

At bottom, the meaning of “in communication with” is clear and unambiguous. Defendants’ construction would introduce ambiguity and confusion where none existed to begin with. Accordingly, VI requests that the Court reject Defendants’ construction.

Dated: February 9, 2022

Respectfully submitted,  
By: /s/ Todd E. Landis  
Fred I. Williams  
Texas State Bar No. 00794855  
Michael Simons  
Texas State Bar No. 24008042  
WILLIAMS SIMONS & LANDIS PLLC  
601 Congress Ave., Suite 600  
Austin, TX 78701  
Tel: 512-543-1354  
fwilliams@wsltrial.com  
msimons@wsltrial.com

Todd E. Landis  
State Bar No. 24030226  
WILLIAMS SIMONS & LANDIS PLLC  
2633 McKinney Ave., Suite 130 #366  
Dallas, TX 75204  
Tel: 512-543-1357  
tlandis@wsltrial.com

John Wittenzellner  
Pennsylvania State Bar No. 308996  
WILLIAMS SIMONS & LANDIS PLLC  
1735 Market Street, Suite A #453  
Philadelphia, PA 19103

Tel: 512-543-1373  
johnw@wsltrial.com

*Attorneys for Plaintiff  
VI Technologies, LLC.*

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that on February 9, 2022, the undersigned caused a copy of the foregoing document to be served on all counsel of record, via the Court's CM/ECF system, pursuant to the Federal Rules of Civil Procedure.

By: /s/ Todd E. Landis  
Todd E. Landis